Commuting Constraints of Black Female Workers in Atlanta: An Examination of Spatial Mismatch Hypothesis in Married–couple Dual–earner Households

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Abstract:

Using 5% Public-Use Microdata Samples (PUMS) for 1990, this paper examines the extent of racial variation in females' commuting times in the Atlanta metropolitan area in the context of the spatial mismatch hypothesis. Much past research has portrayed, based on old industrial cities, racial variation of males' commuting times, but the study of racial variation in female commuting time, especially based on the post-industrial city, remains underexamined. This is one of the very few studies of racial variations in females commuting times based on a post-industrial city. To ensure compatible comparison between Blacks and Whites, the analysis controls all the matched characteristics of these two groups such as: marital status, household types, parental status, occupation status, location of residence and workplaces, and mode of transportation. This study confirms the results of many past studies, that regardless of the comparable socioeconomic status of Blacks and Whites, Black females continue to face significant spatial barriers, especially in the service economy, when commuting within central cities, time that is therefore unavailable for other purposes. Unlike other studies, this research finds, regardless of occupational status, shorter reverse commuting by central city Black females (except for the professional workers). The situation with Blacks living and working in the suburbs differs slightly, with some evidence of an explicit spatial mismatch reflected by their longer commuting times.

Keywords: Atlanta | spatial mismatch hypothesis | racial disparity | commuting

Article:

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COMMUTING CONSTRAINTS OF BLACK FEMALE WORKERS IN ATLANTA: AN EXAMINATION OF THE SPATIAL MISMATCH HYPOTHESIS IN MARRIED-COUPLE, DUAL-EARNER HOUSEHOLDS

Selima Sultana

Using 5% Public-Use Microdata Samples (PUMS) for 1990, this paper examines the extent of racial variation in females' commuting times in the Atlanta metropolitan area in the context of the spatial mismatch hypothesis. Much past research has portrayed, based on old industrial cities, racial variation of males' commuting times, but the study of racial variation in female commuting time, especially based on the post-industrial city, remains underexamined. This is one of the very few studies of racial variations in females commuting times based on a post-industrial city. To ensure compatible comparison between Blacks and Whites, the analysis controls all the matched characteristics of these two groups such as: marital status, household types, parental status, occupation status, location of residence and workplaces, and mode of transportation. This study confirms the results of many past studies, that regardless of the comparable socioeconomic status of Blacks and Whites, Black females continue to face significant spatial barriers, especially in the service economy, when commuting within central cities, time that is therefore unavailable for other purposes. Unlike other studies, this research finds, regardless of occupational status, shorter reverse commuting by central city Black females (except for the professional workers). The situation with Blacks living and working in the suburbs differs slightly, with some evidence of an explicit spatial mismatch reflected by their longer commuting times.

Key words: Atlanta, spatial mismatch hypothesis, racial disparity, commuting.

INTRODUCTION. Much research in the past portrayed racial variations in the commuting times of males, but the study of racial variations in female commuting time remains underexamined (Johnston-Anumonwa, 2000). Until now, evidence of racial differences in commuting times is mostly based on older industrial cities, especially from the northeastern United States (such as New York); post-industrial cities have been little studied. Therefore, as more women join the labor force (Johnston-Anumonwo, 1992; Wyly, 1996, 1998), it is important to analyze women's commuting in post-industrial as well as industrial cities to gain a clearer understanding of the commuting patterns in American cities. Using 5% Public-Use Microdata Samples (PUMS) for 1990, this paper examines the extent of racial variations of females' commuting time in the Atlanta metropolitan area in the context of spatial mismatch hypothesis.

BACKGROUND. Many previous commuting studies have examined racial differences in commuting times and concluded that, regardless of gender, Black workers

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spend more time commuting than do White workers (McLafferty and Preston, 1991, 1996, 1997; Johnston-Anumonwo, 1995, 1997, 2000, 2001). The longer commutes of Blacks is suggested as a problem of spatial mismatch, based on the pioneering work by John F. Kain (1968). Kain argued that suburbanization of jobs has imposed constraints on the spatial access to employment opportunities of Blacks living in central cities, resulting in longer commuting times than for their White counterparts. Arguably, racial discrimination in the housing market means that Blacks typically live in different parts of metropolitan areas and have more limited job choices than their White counterparts (Massey and Hajnal, 1995; Raphael, 1998b), which has profound influence on the commuting patterns of Black workers. Compared with the situation in the 1960s, more Blacks now have opportunities to choose their residences in suburban areas, but the residential segregation of Blacks, especially in central cities, persists (Massey and Hajnal, 1995). In addition to residential segregation, there are significant debates (Ihalnfeldt and Young, 1994; Holzer et. al., 1994; Taylor and Ong, 1995; McLafferty and Preston, 1997) on whether the longer commuting time of Blacks is the result of their dependency on public transportation or the result of a spatial mismatch.

Another body of research holds that the spatial mismatch is not that severe for Black suburban residents (Zax and Kain, 1991; Wyly, 1996; McLafferty and Preston, 1997). These studies showed that Blacks living in the suburbs are closer to suburban jobs than are central city residents. However, Gottlieb and Lentnek (2001), using Census Transportation Planning Package (CTPP) data on four segregated neighborhoods in Cleveland, Ohio, argued that Blacks living in residentially segregated suburbs also suffer from spatial mismatch.

After taking all the above factors into consideration, the economic disadvantages for Blacks may be complicated by the relationship between family responsibilities and commuting time. Black women who are single mothers and the chief economic supporters for their families may complicate the issue even further. However, Black women in married-couple, dual-earner households may not be the primary earners and hence may have more freedom when choosing jobs and houses than single Black mothers (Preston and McLafferty, 1993). Therefore, when marital and family status, residence and workplace locations, occupational status, and transportation are controlled for, it is not self-evident how race affects commuting.

RESEARCH QUESTIONS. The following questions were asked in this paper.

> The first question is: When there are similar (matched) profiles between Blacks and Whites such as marital and socioeconomic status and locations of residents and workplaces, are there any differences between commuting times of Black and White married female workers?

I attempt to determine whether wives of both Black and White dual-earner households have similar commuting experiences when transportation, location, and employment status have been taken into account. Black couples may be unable to compete successfully for convenient job locations because of residential segregation, and hence wives in Black households may be more likely to commute longer times than their White counterparts.

The second question is: Does suburbanization of Black residents decrease the commuting time of Black wives?

The commuting direction between central cities and suburbs has been relatively neglected in commuting research, with the exception of Johnston-Anumonowa (1997, 2000, 2001). It is particularly important to investigate commuting direction of women workers because their labor market activity takes place within more spatially restricted geographical areas (Johnston-Anumonwo, 2001). Any form of segmentation that concentrates the spatial distribution of job opportunities for Black women may increase their commuting times relative to those of White women.

DATA, METHODOLOGY AND STUDY AREA. The 5% Public-Use Microdata Samples (PUMS) are used for this study. The PUMS data provide social and demographic information at the individual and household level. All of this information is organized by place of residence, but it is possible to link home and workplace. To ensure comparison between matched groups, wives of married couple dual-earner families who worked outside the home (total sample size was 9078) were selected; all analyses were restricted to automobile users; occupation groups were classified into four standard census defined categories, i.e., professional/managerial, technical/sales/clerical, services, and industrial/crafts (U.S. Department of Commerce, 1992). The wives' commuting times from both Black and White married couple, dual-earner households were compared by using Analysis of Variance (ANOVA).

The foundation of the post-industrial city-building process in Atlanta rested on a rapidly expanding entrepreneurial job base, associated with maturing of the service economy and information age (Hartshorn and Ihlanfeldt, 2000). Atlanta had the highest rate of employment growth, especially in the service economy in the nation between 1980 and 1990. Women's labor force participation steadily increased for both Blacks (69%) and Whites (64%) during this period as well (Brown and Tigges, 2000). While level of residential segregation between Blacks and Whites declined and Black suburbanization expanded over time, still the majority of Blacks remained in restrictive central city areas in south and southeastern Atlanta. The level of low-skill job decentralization in Atlanta is among the highest in the nation (Ihlandfeldt and Sjoquist, 2000). With this large number of newly created jobs, high levels of jobs suburbanization, and high female labor force participation, and racial

TABLE 1
RACIAL DIFFERENCES OF FEMALES MEAN COMMUTING TIME BY FAMILY TYPES (AUTO USERS ONLY)

Family types	Black wives	White wives
Female in dual-earner households	26.11[a]	25.36[a]
With children age 0 to 6	27.01	28.12
With children age 6 to 17	26.30[a]	23.39[a]
With children age 0 to 17	27.20	25.42
Without children	24.85	25.40

[a]Statistically significant at p = <.10.

dichotomy in spatial urban form, the Atlanta metropolitan area deserves special consideration for examining racial variations of female commuting times in the context of the spatial mismatch hypothesis.

RESULTS OF ANALYSIS. Racial differences in Commuting Times by Family Types. Table 1 shows the comparison of racial differences in commuting by household types. Overall, Black wives commute about one minute longer than White wives (statistically significant at p = <.10). The question of whether or not parental responsibility shortens the commuting time of different racial groups is examined. Regardless of race, the average commuting time of wives with children increases compared to childless wives (Table 1). But Black wives with school-age children (ages 6 to 17) commute an average of three minutes longer than Whites with school-age children. The difference is statistically significant at p = <.10. White wives with school-age children have a shorter commuting time. In contrast, Black wives show no difference. White wives with under school-age children have longer commuting times (one minute) compared to their Black counterparts, but the difference is not statistically significant. Thus, the economic and residential disadvantage of Black families may complicate the relationship posited between parental responsibilities and commuting time. Clearly, the presence of school-age children has a higher and more significant effect on commuting patterns of Black wives than those of White wives.

The Effect of Residential and Workplace Location. To assess whether commuting times for Black and White wives differ by residential and workplace locations, I repeated the analysis separately for central-city and suburban locations of residents (Table 2) and commute directions (Table 3 and Fig. 1). Commuting times are substantially longer for Black wives regardless of residential location (Table 2), which contradicts many of the previous findings of no mismatch in suburban locations. However, the racial differences in commuting times are highest for central-city

TABLE 2
RACIAL DIFFERENCES IN MEAN COMMUTING TIME BY RESIDENTIAL LOCATIONS (AUTO USERS)[a]

Locations	Black wives	White wives
Central-city areas	23.71	19.65
Suburban areas	27.36	26.19

[a]All the above are statistically significant at p = <.05.

TABLE 3
MEAN TRAVEL TIME BY RACE CONTROLLING FOR DIRECTIONS OF COMMUTES (AUTO USERS)[a]

Directions of commutes	Black wives	White wives
City to city	23.46	18.34
City to suburbs	25.57	27.60
Suburbs to city	29.17	31.44
Suburbs to suburbs	22.19	21.22

[a]All are significant at p = <.05.

residents; Black wives commute four minutes longer than White wives. Therefore, inner-city Black wives appear to have more work-trip constraints compared to White wives in the central city.

When commute direction is considered, significant racial disparities in travel time are observed within city and suburban destinations (Table 3 and Fig. 1). Black wives spend about an average of five minutes longer in commuting than White wives for city-to-city commutes, and one minute longer in suburb-to-suburb commuting. Again, in central city-to-central-city origin and destination of commuting, Black wives show greater travel constraints. Unlike other studies, this research demonstrates that city-to-suburbs commuting by White wives averages two minutes longer than for their Black counterparts; suburb-to-city commuting times for White wives also exceeds that of Black wives by two minutes.

Occupational Status and Commuting. Next, I test whether occupational status of wives by residential location and race has any effect on commuting time (Table 4). Racial differences in commuting time are observed in every residential location regardless of occupational status. Black wives in every occupational status commute longer than White wives, and again the time differences are greater in central-city locations. Black wives in service jobs are more travel constrained, and commute 6.5 minutes longer than White wives in central-city residential locations.

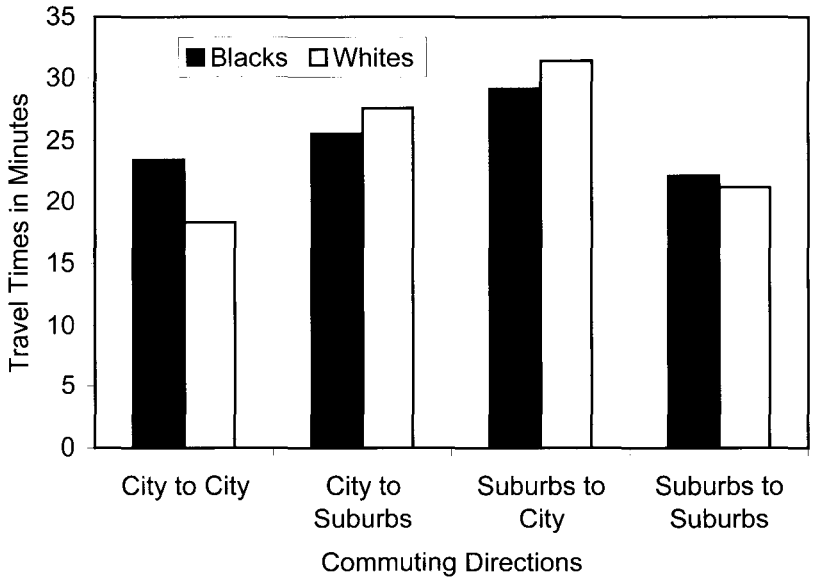

Fig. 1. Mean travel times by race, controlling for commuting directions (auto users).

TABLE 4
RACIAL DIFFERENCES IN MEAN COMMUTING TIME BY OCCUPATIONAL STATUS AND PLACE OF RESIDENCE (AUTO USERS ONLY)[a]

Occupation type:	Professional managerial		Technical, sales, and clerical		Services		Industrial/crafts	
Locations	White wives	Black wives	White wives	Black wives	White wives	Black wives	White wives	Black wives
Central	19.70	22.49	18.96	23.99	18.91	25.59	22.08	23.11
Suburbs	26.77	28.65	26.89	27.99	20.88	22.16	23.57	24.20

[a]All are statistically significant at p = <.10.

These results also confirm that the racial gap in commuting times is reduced in suburban locations, regardless of occupational status. Black wives living in suburbs commute about one minute longer than their White counterparts.

Table 5 and Figure 2 present somewhat different evidence of racial variations in commuting times of wives when controlling for occupational types and central-city and suburban commuting patterns. Again, regardless of occupational types, the commuting times of Black wives is longer than their White counterparts for city-to-city

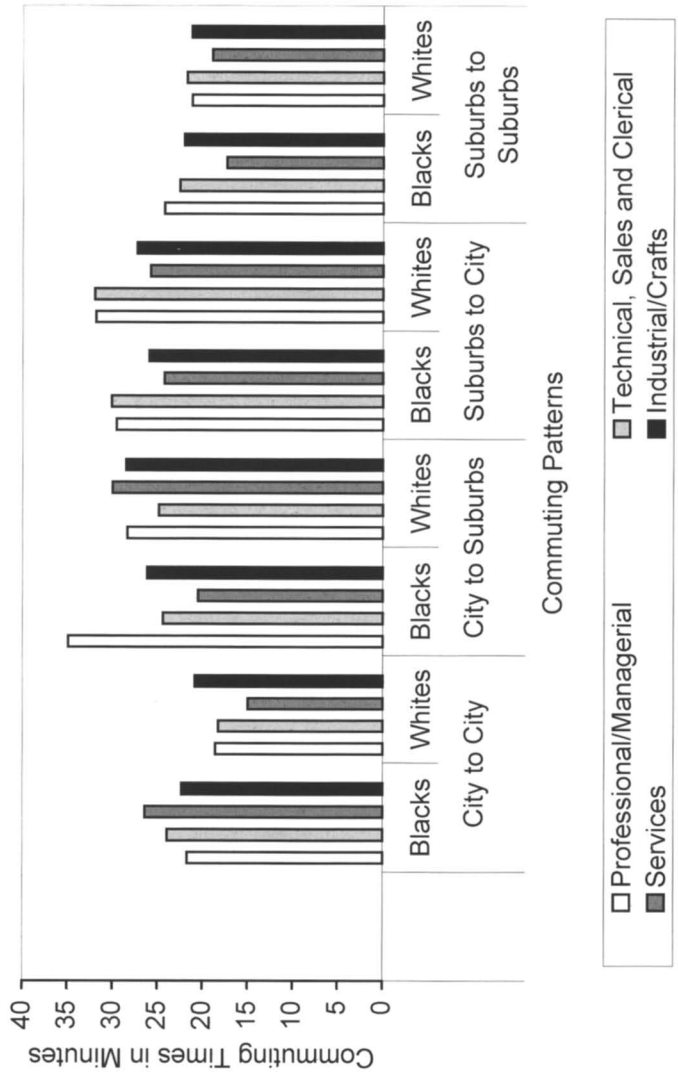

Fig. 2. Racial variations of wives commuting times, controlling for professional status and commuting directions.

TABLE 5
RACIAL VARIATIONS OF FEMALES COMMUTING TIMES CONTROLLING FOR OCCUPATIONAL TYPES AND COMMUTE DIRECTIONS (AUTO USERS)[a]

Occupational types	Commuters directions							
	City to city		City to suburbs		Suburbs to city		Suburbs to suburbs	
	Black wives	White wives	Black wives	White wives	Black wives	White wives	Black wives	White wives
Professional/managerial	21.70	18.58	34.89	28.36	29.57	31.83	24.27	21.21
Technical, sales, and clerical	23.93	18.26	24.40	24.88	30.09	31.98	22.57	31.77
Services	26.39	14.98	20.49	30.00	24.27	25.79	17.34	18.96
Industrial/crafts	22.31	20.86	26.15	28.50	25.94	27.29	22.07	21.24

[a]All of the above are statistically significant at $p = <.10$.

commutes: the greatest difference in commuting times between the two groups is observed in service jobs. On the other hand, for city-to-suburban commuting, Black wives in professional jobs commute about 6.5 minutes longer than Whites and, in contrast, White wives in service jobs commute about 9.5 minutes longer. For suburb-to-city commuting, regardless of occupational status, White wives commute approximately one to two minutes longer. In contrast, for suburb-to-suburb commuting, Black wives commute about one to three minutes longer. The following section will analyze why, regardless of similar socioeconomic and locational profiles, racial differences in commuting times exist and why commuting times for Blacks in particular are higher or lower in different situations.

DISCUSSION AND CONCLUSION. This research finds that, regardless of residential location or occupational status, Black wives overall commute longer than White wives, when central-city and suburban commute patterns are not taken into consideration. However, when directions of the commute are controlled in the analysis, these findings show that, even when access to a car is not an issue, within the central city commuting continues to place a disproportionate burden on Black wives and confirms again that Black wives living in central-city areas face a spatial mismatch that necessitates longer commuting times than those of White wives with similar marital and socioeconomic characteristics. Central-city wives in service jobs are most severely constrained in commuting times.

Like Gottlieb and Lentnek (2001), this research also suggests that spatial mismatch is not only a central-city problem. Blacks who live and work in suburban

locations also suffer from mismatch, though the racial differences of commuting times within suburbs are not as great as within the central city. Significant differences do exist in Atlanta, a finding that is contradictory to many past studies. The smaller differences in suburb-to-suburb commuting times between Black and White wives may have positive or negative interpretations. The smaller racial differences in the journey to work may indicate that Black wives living in the suburbs have virtually as many employment opportunities as suburban White wives.

Unlike other studies, although this research finds shorter reverse (city-to-suburb) commuting by central-city Black females compared to central-city White female workers (with the exception of professional workers), these shorter commutes certainly do not constitute an advantage for Black workers in clerical, service and industrial jobs. Rather, their shorter reverse commuting time may be a result of discriminatory attitude against Black workers, especially against central-city Black workers by the exuburban employers and customers. Atlanta is known as a racially segregated metropolis and for the exodus to the exuburbs of Whites looking for better living conditions and perhaps greater distances from Black residences. Thus, this study ultimately supports many past studies that professional Black female workers are constrained in reverse commuting by their higher commuting times.

Significantly, White wives, regardless of matched socioeconomic and locational status, in suburb-to-central city commuting, spend an average of two minutes longer than Black wives; hence, it is necessary to ask whether this is indicative of a spatial mismatch or of living choice. I argue in this paper that the longer commuting times of White wives do not result from a spatial mismatch. Rather, their longer commuting times from suburban residences to the central city are a result of the legendary racial residential segregation that exists in Atlanta.

In conclusion, this study confirms the results of many past studies that, regardless of similar socioeconomic status of Blacks and Whites, Black females face significant spatial barriers, especially those employed in the service economy. Unlike other studies, this research finds, regardless of occupational status, shorter reverse commuting by central city Black females (except for professional workers). The situation with Blacks living and working in the suburbs differs slightly, with some evidence of an explicit spatial mismatch reflected by longer commuting times.

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